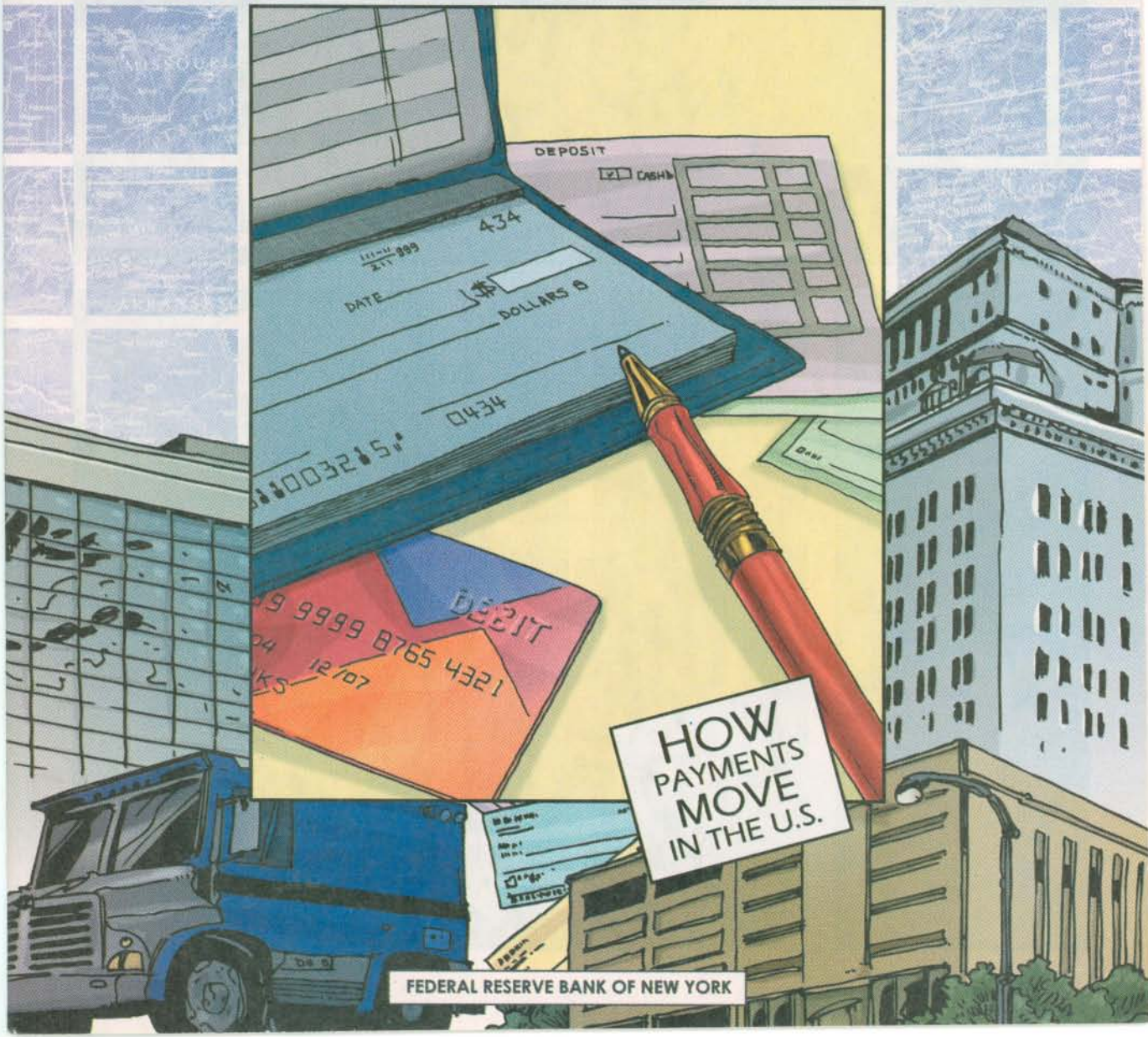
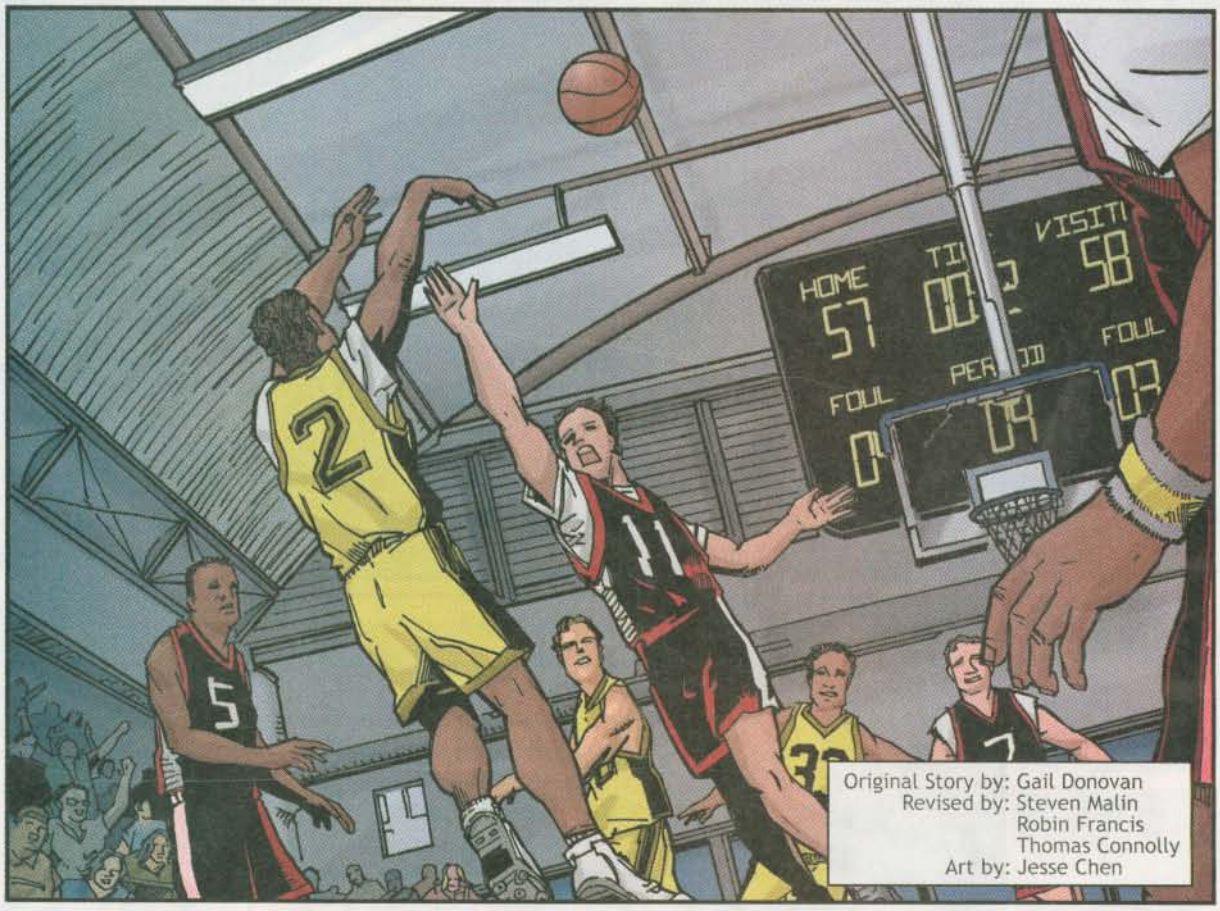
THE STORY OF CHECKS AND ELECTRONIC PAYMENTS



FEDERAL RESERVE BANK OF NEW YORK


HOME
57
FOUL
FOUL
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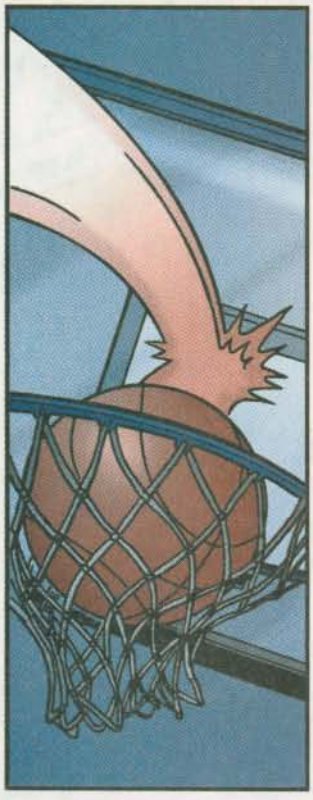
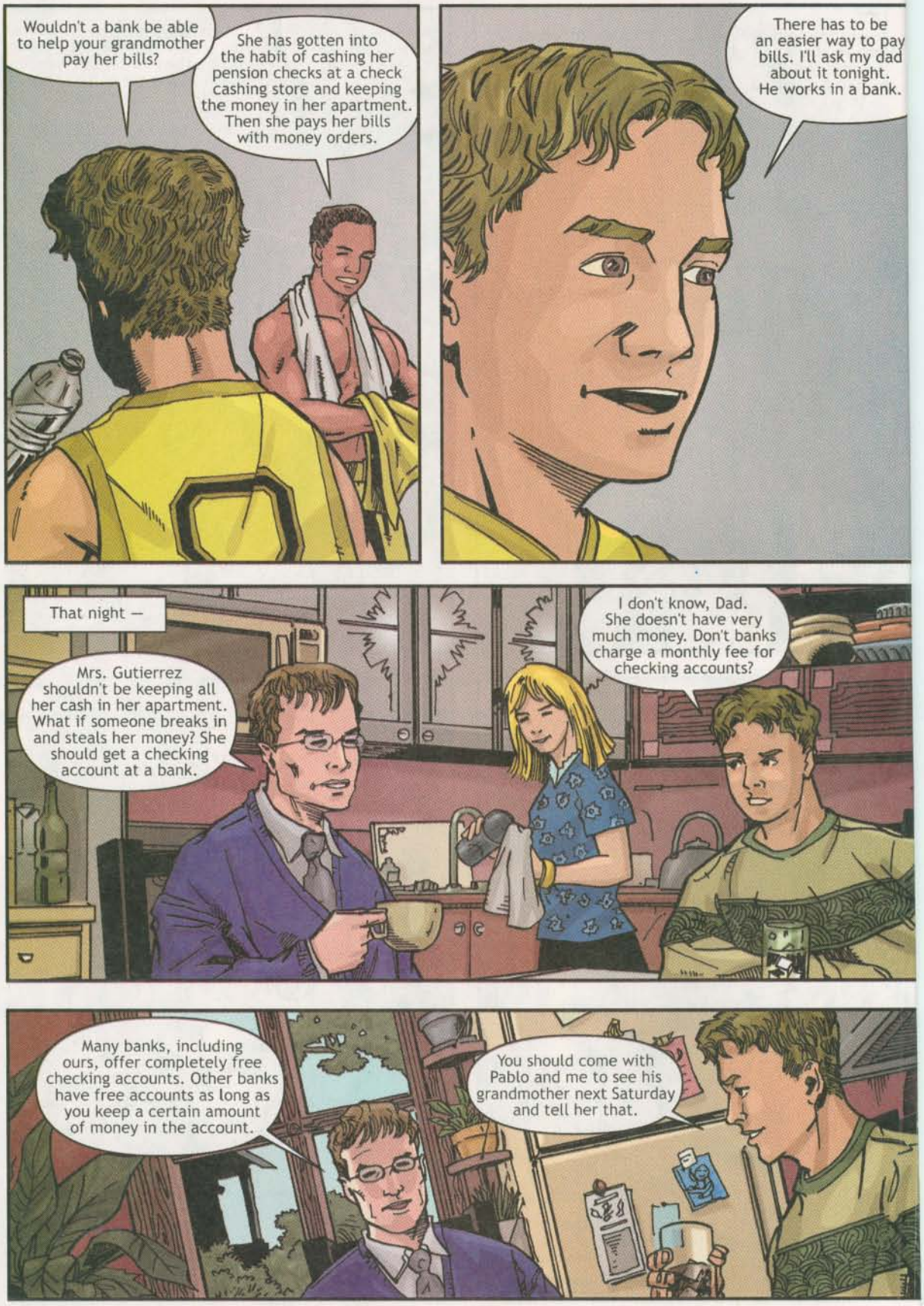


We won it!
By one point!
I can't believe it!

Hey, Pablo, let's go out and celebrate. Do you want to get a pizza?
Sure, Jeff, but I can't stay long.

What's the problem? Aren't you fired up that we won the game? I'm so pumped up I can't sit still.
Of course I'm excited, but I need to take care of something important. I was supposed to do it yesterday, but I didn't.
What's so important that it can't wait a few hours?
I promised my grandmother I'd get her some money orders before the post office closes so she can pay her bills on time. She hasn't been able to leave our apartment since she broke her hip. Why don't you come with me?
Okay, but first you've got to tell me what a money order is.
Money orders are forms that my grandmother buys to pay her bills. I give money to the postal clerk, who types the amount of each of my grandmother's bills on separate forms.
Then, Grandma mails the forms, or money orders, to whoever she has to pay.
Aren't money orders expensive?
They come to quite a few dollars each month.


Wouldn't a bank be able to help your grandmother pay her bills?
She has gotten into the habit of cashing her pension checks at a check cashing store and keeping the money in her apartment. Then she pays her bills with money orders.
There has to be an easier way to pay bills. I'll ask my dad about it tonight. He works in a bank.
That night —
Mrs. Gutierrez shouldn't be keeping all her cash in her apartment. What if someone breaks in and steals her money? She should get a checking account at a bank.
I don't know, Dad. She doesn't have very much money. Don't banks charge a monthly fee for checking accounts?
Many banks, including ours, offer completely free checking accounts. Other banks have free accounts as long as you keep a certain amount of money in the account.
You should come with Pablo and me to see his grandmother next Saturday and tell her that.

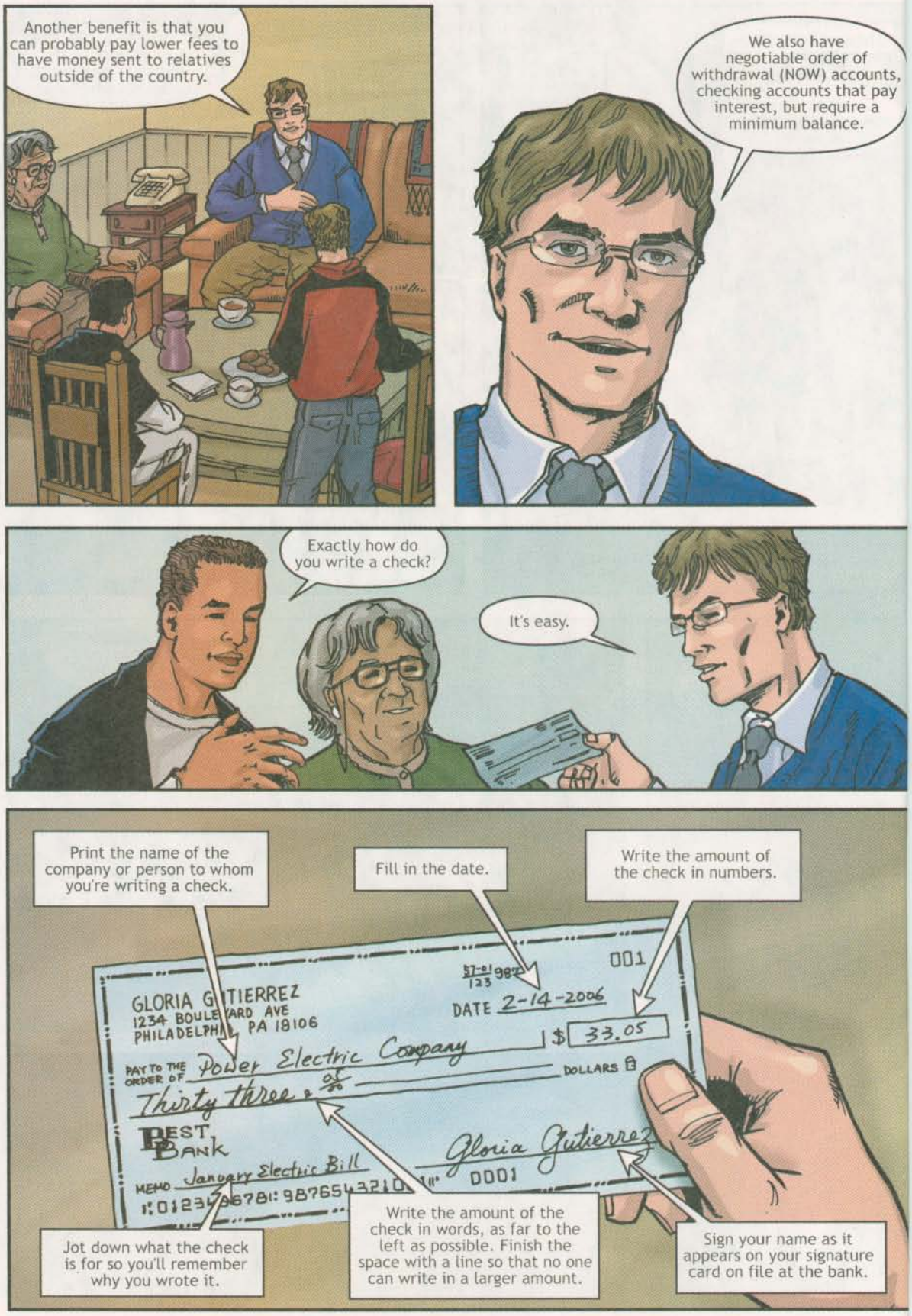
The next Saturday —
Grandma, do you remember Jeff's dad, Mr. Banks?
Of course I do. I've known him since he was the star basketball player at the high school.
These boys are breaking all my basketball records this year. I think they're going to be state champions.

A championship would be so amazing.
Yes, it would. But I didn't stop by to talk basketball. I wanted to tell you about the free checking accounts we have at the bank.

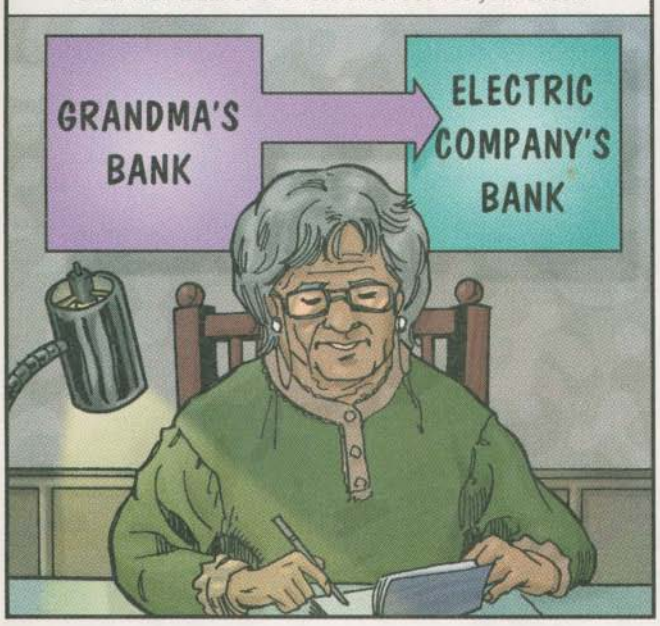
What's so great about having a checking account, Mr. Banks?

For one thing, a checking account is convenient. If your grandmother had a checking account, you wouldn't have to go out to buy money orders for her each week.

Also, a checking account is safe. With a checking account, you don't have to walk around with a lot of cash.


Another benefit is that you can probably pay lower fees to have money sent to relatives outside of the country.
We also have negotiable order of withdrawal (NOW) accounts, checking accounts that pay interest, but require a minimum balance.
Exactly how do you write a check?
It's easy.
Print the name of the company or person to whom you're writing a check.
Fill in the date.
Write the amount of the check in numbers.
GLORIA GUTIERREZ
1234 BOULEVARD AVE
PHILADELPHIA PA 18106
001
DATE 2-14-2006
PAY TO THE ORDER OF Power Electric Company
$ 33.05
DOLLARS
Thirty three & 05/100
BEST BANK
MEMO January Electric Bill
Gloria Gutierrez
0001
Jot down what the check is for so you'll remember why you wrote it.
Write the amount of the check in words, as far to the left as possible. Finish the space with a line so that no one can write in a larger amount.
Sign your name as it appears on your signature card on file at the bank.

Basically, a check is a written order that tells your financial institution to transfer funds from your account to the account of an individual or business that receives your check.

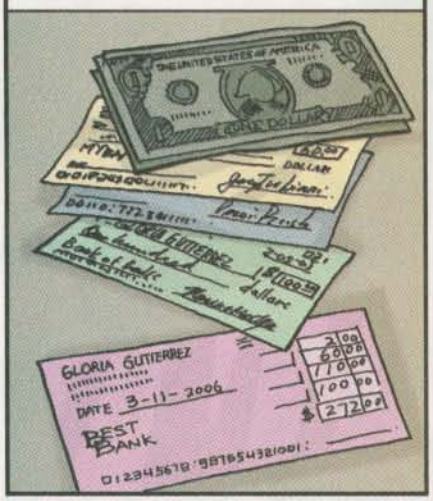


ENDORSE
Gloria Gutierrez
FOR DEPOSIT ONLY
987654321001
You just have to endorse it. That means you sign your name, using only the first inch and a half on the back of the check. Banks need the rest of the space on the back of the check to fill in their own information.

To deposit a check, you'll need a deposit slip. Deposit slips have your name and account number on them and are found at the back of your checkbook.

And blank deposit slips are available at the bank. If you use a blank deposit slip, be sure to write your account number and your name on it.

On the deposit slip, list each check you are depositing and write the total amount of the deposit (cash plus checks) on the bottom.



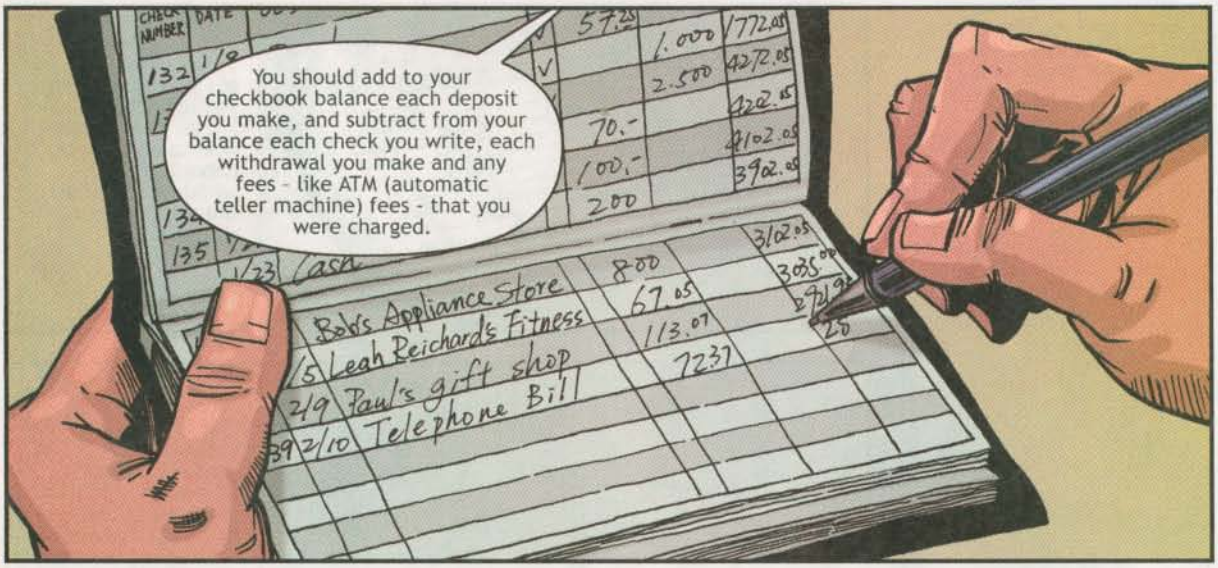
When Grandma's feeling better, can she go to the bank, deposit a check and get part of, or the entire amount, back in cash?

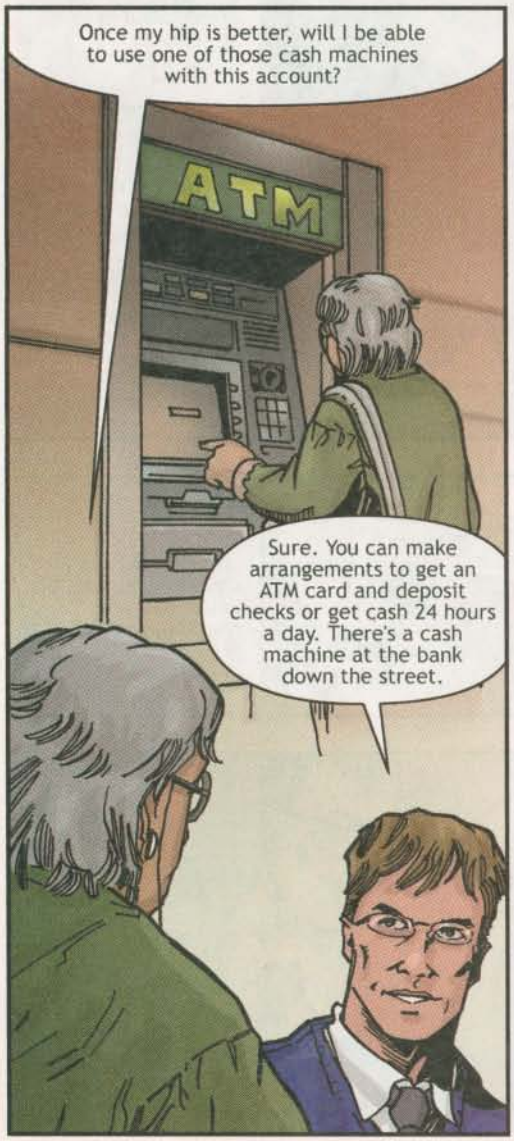
The answer to that depends on a number of things, Pablo, including whether your grandmother does other business with the bank and the amount of funds that she has available in her account.

When you deposit a check, the teller can tell you when the funds will become available or when you can write checks against the amount you deposited. Banks are required by law to publish funds availability information.

Now, how am I going to keep track of all my checks and deposits?

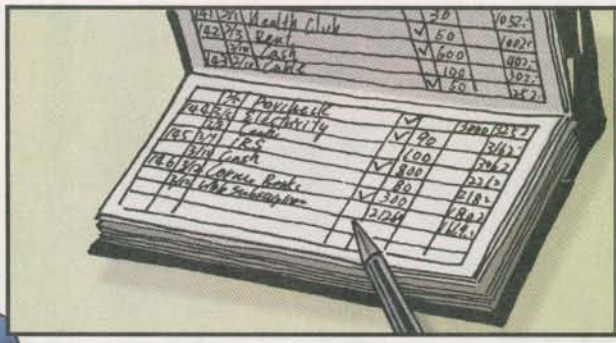
The best way is to write them down in your check register so that you'll always know how much money you have in your account.


You should add to your checkbook balance each deposit you make, and subtract from your balance each check you write, each withdrawal you make and any fees - like ATM (automatic teller machine) fees - that you were charged.
CHECK NUMBER
DATE
Cash
Bob's Appliance Store
Leah Reichard's Fitness
Paul's gift shop
Telephone Bill


Once my hip is better, will I be able to use one of those cash machines with this account?
ATM
Sure. You can make arrangements to get an ATM card and deposit checks or get cash 24 hours a day. There's a cash machine at the bank down the street.

With money going in and out of an account, it would help to have some kind of document telling me how much money I have left.
Actually, you'll get a statement and your cancelled checks - or copies of them depending on what your bank offers - so you can balance your checking account. Many banks even let you check your account online.
I don't like math. How would someone balance a checking account?
All you need is your bank statement and checkbook.

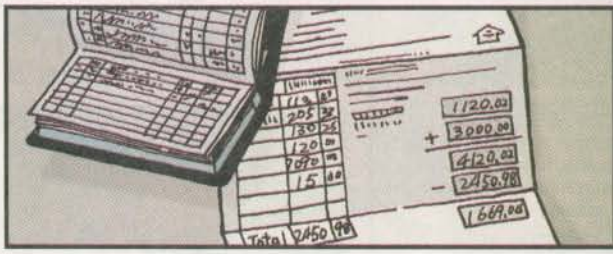
Here's how you use your bank statement to balance your checkbook



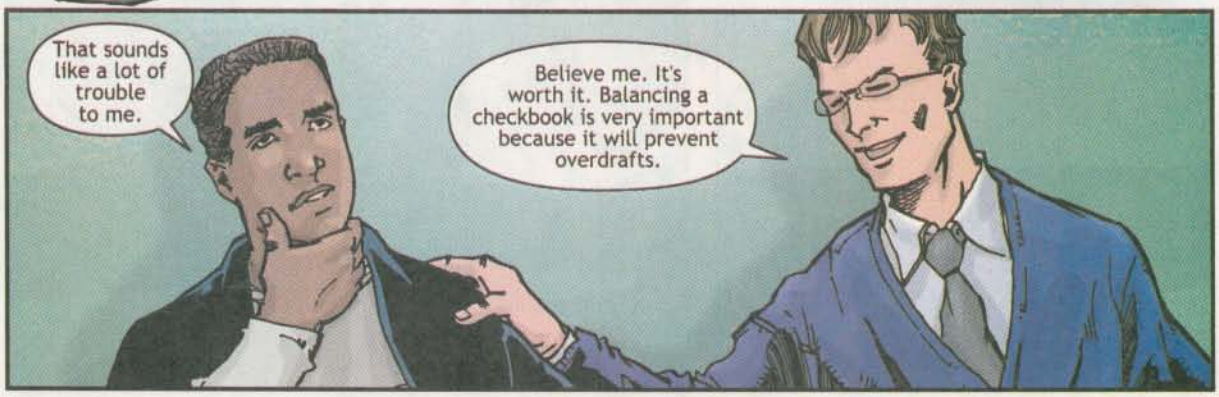
Step 1: When you get your statement, you should put a mark in your check register next to each check, deposit and ATM withdrawal that you see listed in your statement.

Step 2: On the blank form on the back of your statement, add to the account balance in your statement all the deposits in your check register that aren't listed in your statement.

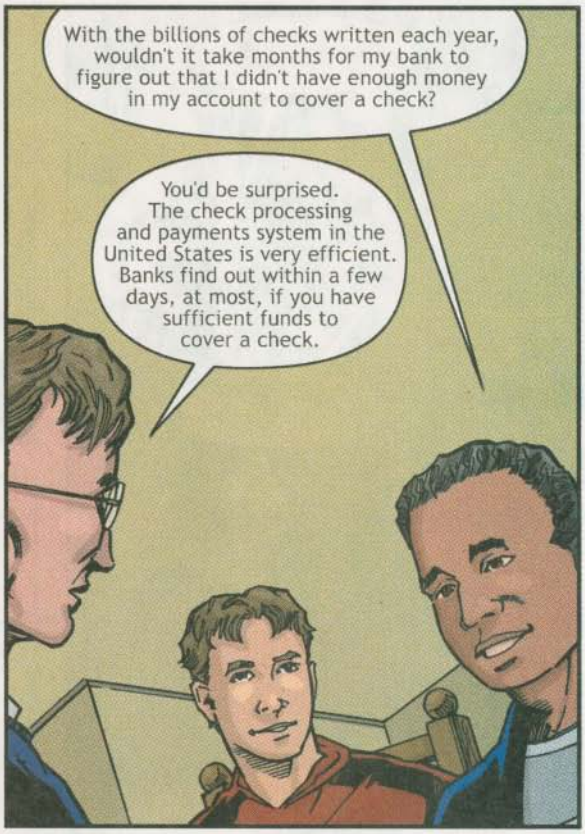
Step 3: Add the amounts of the checks, ATM withdrawals and charges that aren't recorded in your statement, and subtract that number from the balance in step 2. Don't forget to record your ATM fees. They will affect your account balance.



Step 4: The result should equal the balance in your checkbook register.


That sounds like a lot of trouble to me.
Believe me. It's worth it. Balancing a checkbook is very important because it will prevent overdrafts.

Overdrafts are "bounced checks" that the bank won't pay because you don't have enough money in your account to cover them.
Overdrafts? What are they?
You have to be careful when you have a checking account; it's a serious responsibility.

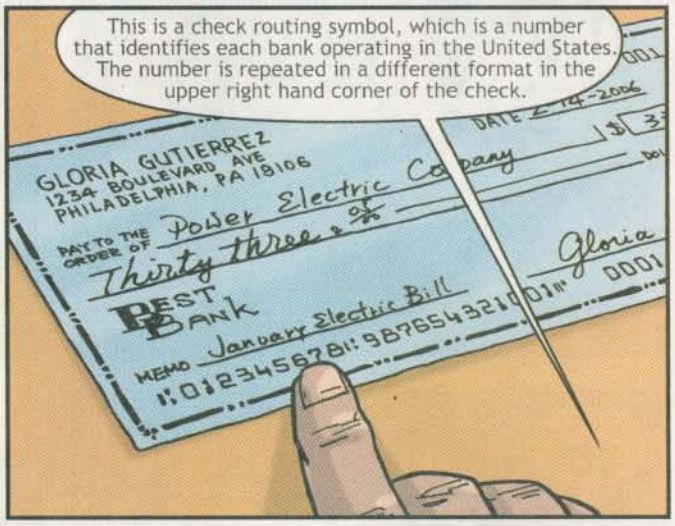

With the billions of checks written each year, wouldn't it take months for my bank to figure out that I didn't have enough money in my account to cover a check?
You'd be surprised. The check processing and payments system in the United States is very efficient. Banks find out within a few days, at most, if you have sufficient funds to cover a check.

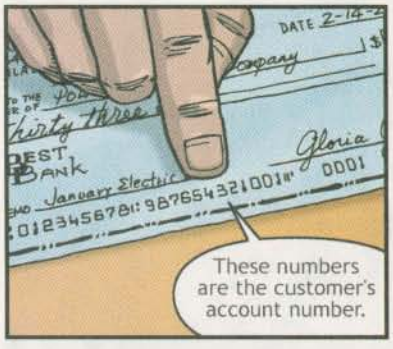
How?
Let's say you write a check to Jeff and he has his checking account at the same bank. Your bank would find out the same day that Jeff deposited the check that you didn't have enough money.

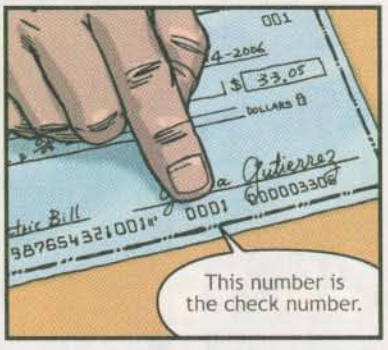
Even if you don't do business with the same bank, your bank would be able to discover if you didn't have enough money to pay the check and would return it — unpaid — to Jeff's bank.

So, why is that such a big deal?
For one thing, I'd be pretty mad.
Besides that, your bank would charge you a penalty or fee. And if you write a bad check to a business, the business may charge you a penalty, too. Those penalties can add up. Plus, if you write a lot of checks that bounce, you could end up with legal problems.

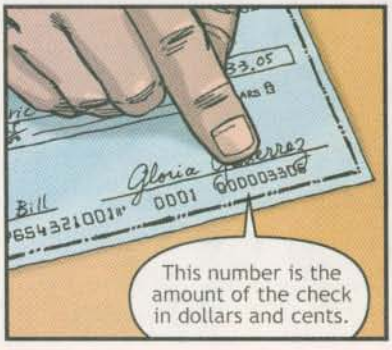
How does the check processing system tell one check from the others?
I'll show you. Take a look at this check.

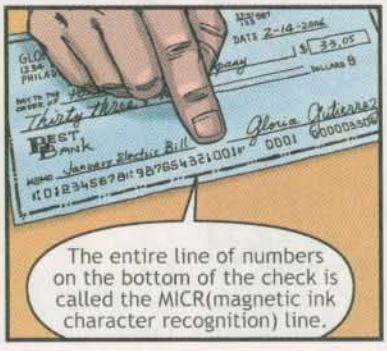

This is a check routing symbol, which is a number that identifies each bank operating in the United States. The number is repeated in a different format in the upper right hand corner of the check.
GLORIA GUTIERREZ
1234 BOULEVARD AVE
PHILADELPHIA, PA 18106
PAY TO THE ORDER OF Power Electric Company
Thirty three and 05/100
BEST BANK
MEMO January Electric Bill
⑈012345678⑈ 987654321 ⑆0001⑈


These numbers are the customer's account number.


This number is the check number.

So, when a bank sends a check to be processed, the machines read the magnetic ink numbers, or MICR line, identifying the bank whose customer wrote the check, as well as the customer and the amount of the check.


This number is the amount of the check in dollars and cents.


The entire line of numbers on the bottom of the check is called the MICR(magnetic ink character recognition) line.

So, how exactly are checks processed?
Let's say that you just wrote a check for an MP3 player at a local electronics store.
SPECIAL
How does my financial institution know to deduct funds from my account?
First, the electronics store deposits your check in its account with Friendly Bank, which enters a line of magnetic ink characters, or MICR line, on the check for the total check amount, for example, $150.
FRIENDLY BANK
Pablo Gutierrez
ELECTRONICS STORE
DATE 1-08-06
#150.00
DOLLARS
Then, Friendly Bank pays, or credits, the electronics store's account $150 and can send the check on to the Federal Reserve to be cleared, or processed.
FRIENDLY BANK
ELECTRONICS STORE
$150
UNITED STATES FEDERAL RESERVE SYSTEM
They send checks to the Fed one at a time?
Not quite. When banks prepare checks for processing by the Federal Reserve, they package them in bundles, which makes processing them easier.

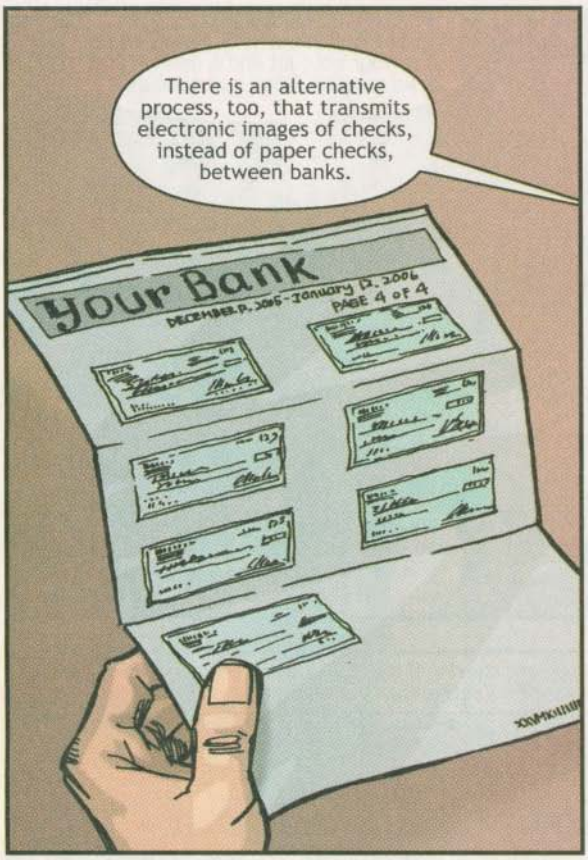
The Federal Reserve, or the Fed, the country's central bank, has check processing facilities throughout the U.S.

Once checks arrive at a Fed check processing facility, they go through a reader-sorter machine that can shoot 1,500 checks a minute into as many as 36 different pockets representing banks or groups of banks.

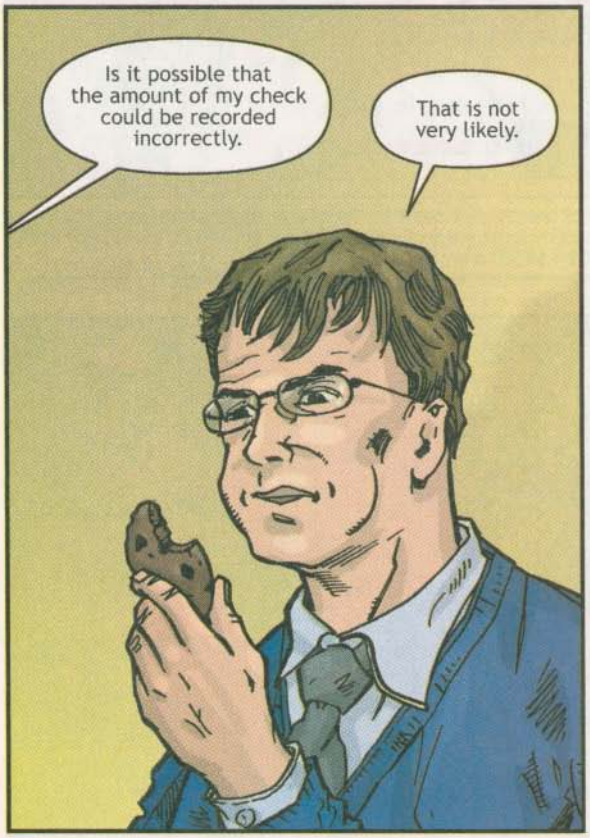
In addition to reading the magnetic ink characters, the processing sorter bundles together all checks drawn on banks in the facility's Federal Reserve District and those drawn on banks located elsewhere. Simultaneously, a computer prints a listing of the checks that were sorted into each pocket and their total dollar value.

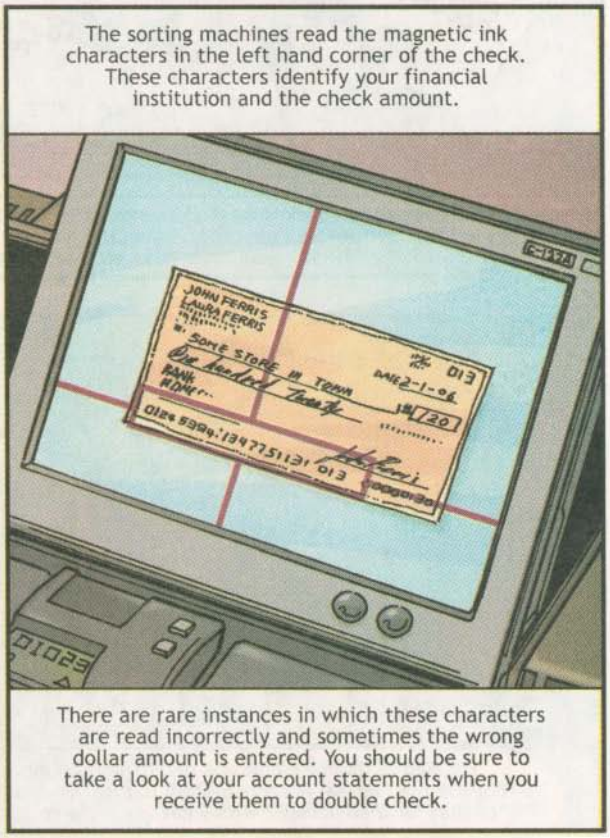
After the checks are processed, they are packaged with a matching computer list and sent by truck or plane to a local Federal Reserve facility serving the bank on which the check was drawn. That Fed facility, in turn, sends the checks to the banks of the customers who wrote them.

If you had found a cheaper MP3 player during your recent trip to Ohio and bought it there, your check would have gone to the Federal Reserve Bank of Cleveland, then to the Philadelphia Fed, which would send it to your bank.

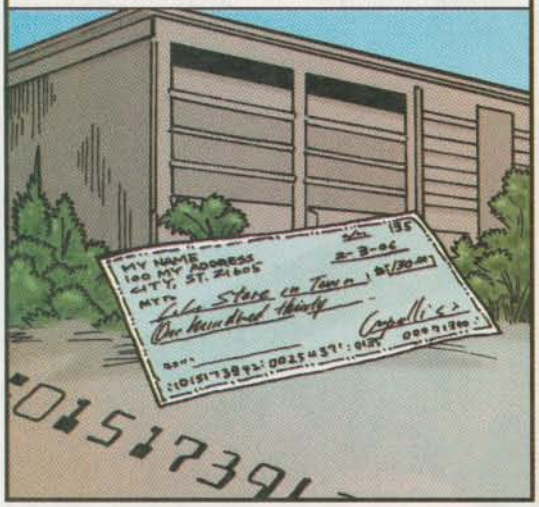

There is an alternative process, too, that transmits electronic images of checks, instead of paper checks, between banks.
Your Bank
DECEMBER 29, 2005 - January 13, 2006
PAGE 4 of 4

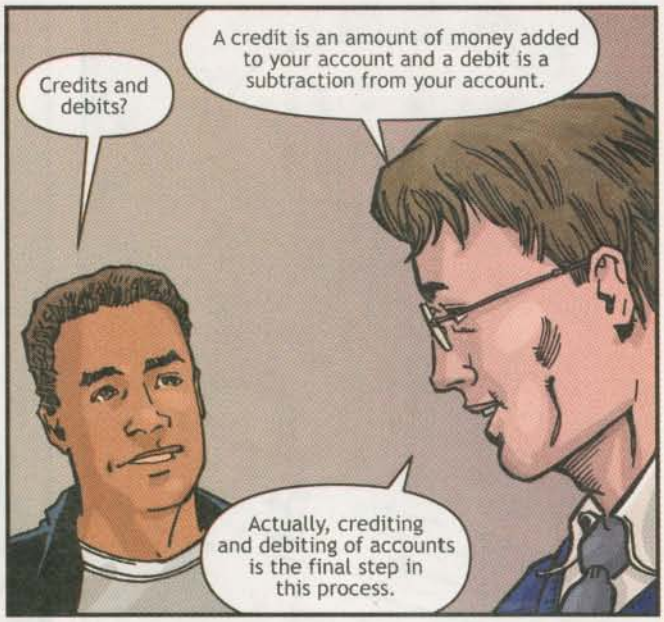
A check-writer who needs to have a paper check can request a copy of the check. Otherwise, customers receive images of checks along with a monthly account statement.
Where would my original check go if this electronic process was used?
Since the bank scanned your check and has the electronic copy, your check will be destroyed.


Is it possible that the amount of my check could be recorded incorrectly.
That is not very likely.

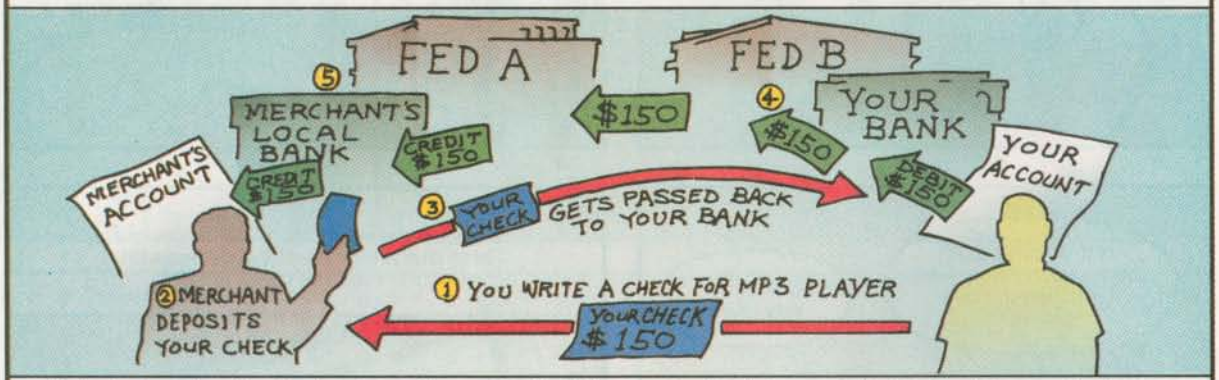

The sorting machines read the magnetic ink characters in the left hand corner of the check. These characters identify your financial institution and the check amount.
JOHN FERRIS
LAURA FERRIS
SOME STORE IN TOWN
DATE 2-1-06
013
There are rare instances in which these characters are read incorrectly and sometimes the wrong dollar amount is entered. You should be sure to take a look at your account statements when you receive them to double check.

A Federal Reserve Bank that is receiving either an electronic, or a paper, copy with the magnetic ink characters has all of the information it needs to credit and debit the accounts of banks.




Credits and debits?
A credit is an amount of money added to your account and a debit is a subtraction from your account.
Actually, crediting and debiting of accounts is the final step in this process.

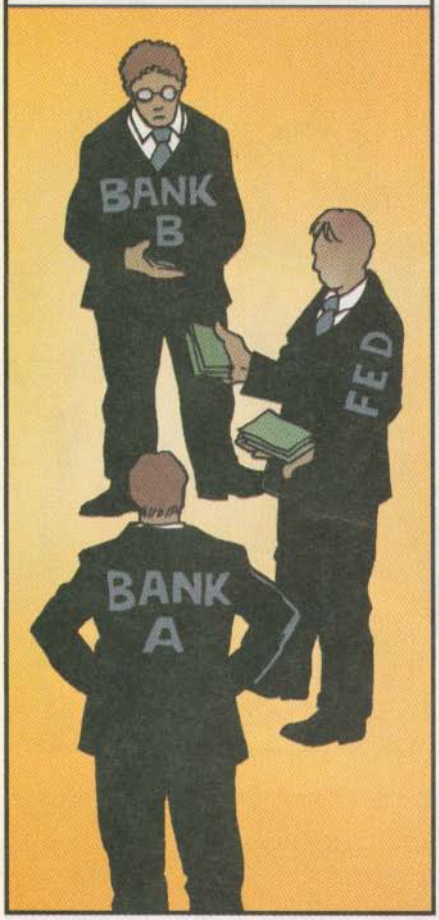
The Federal Reserve Banks credit the banks depositing their customer's checks. If the bank paying the check received by the Fed is located in the same Fed District, then the Fed debits that bank the same day.



If the bank paying the check is located in another Fed District, the check is sent to that Federal Reserve District for payment. That can take an extra day. When the Federal Reserve Bank presents a check to your bank - say it's for $150 - your bank reduces your account by $150 to pay $150 to the Fed.

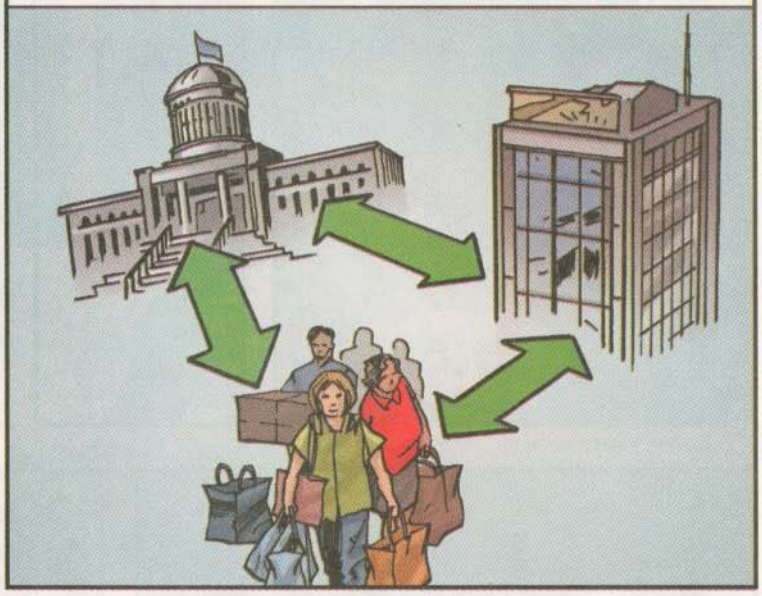
The Fed is able to credit and debit the accounts of other banks because all financial institutions that use the Federal Reserve System to clear checks have a direct account with a Federal Reserve Bank or they have an account with what's called a correspondent bank that has an account with the Fed.

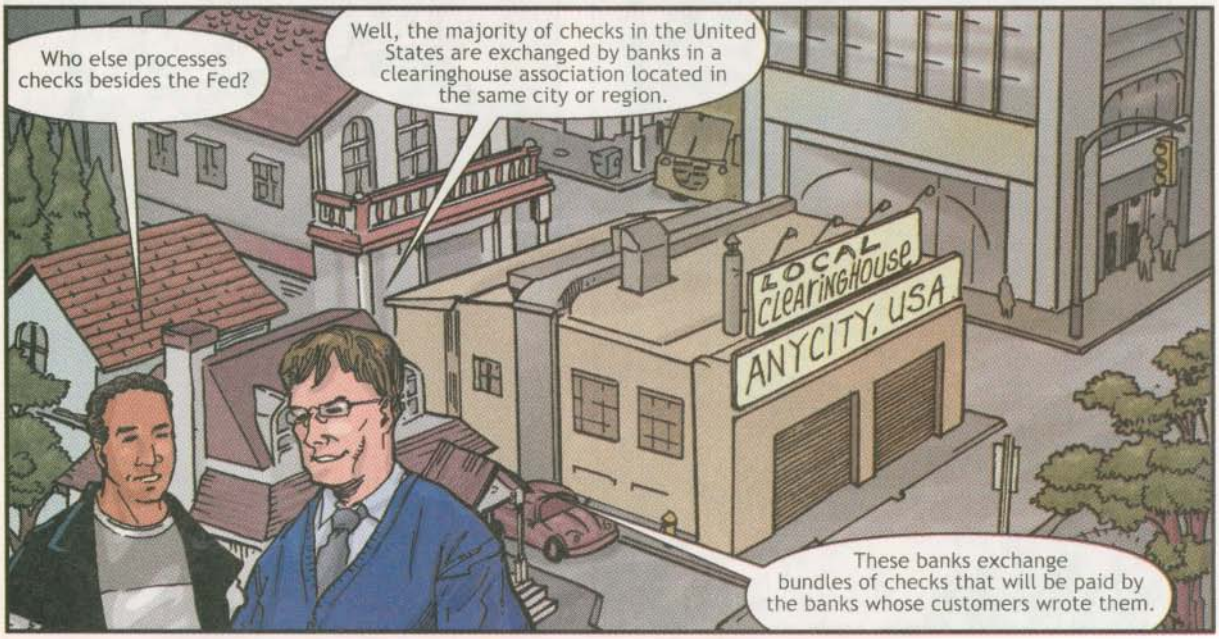
In fact, even if the Fed does not process checks for certain banks, it plays a part in the transfer of money that banks owe each other for checks written by their customers. This task is called settlement of accounts.

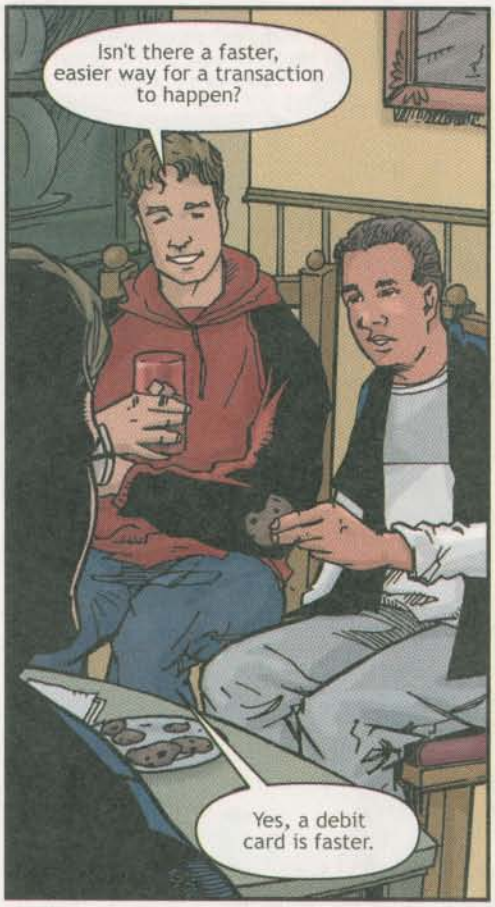


Why does the Federal Reserve play such a large role in all of this?
Well, among other things that the Fed does, it's the Fed's job to keep our payments system efficient and secure.

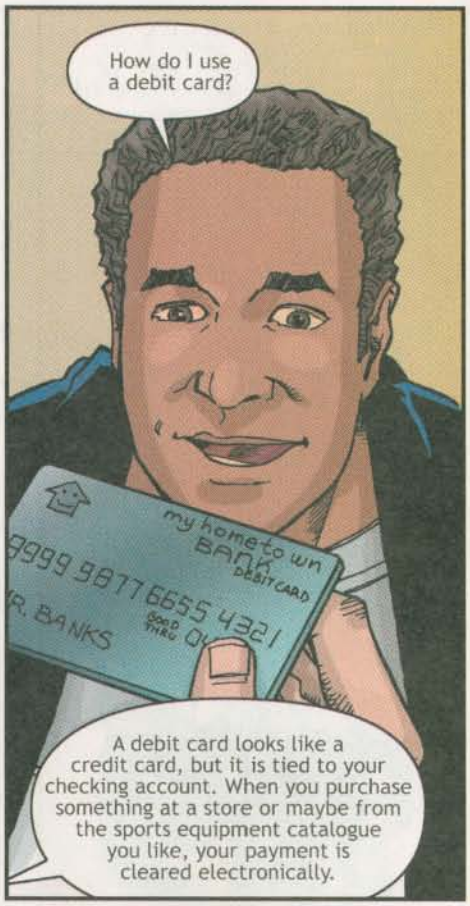
By payments system, I mean the ways consumers, businesses and governments pay bills, accept payments and settle their accounts with one another.

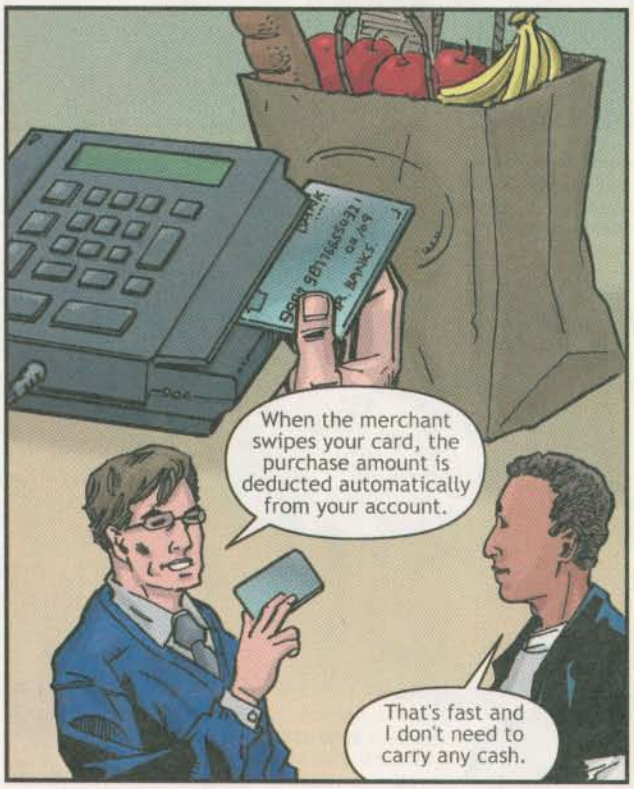


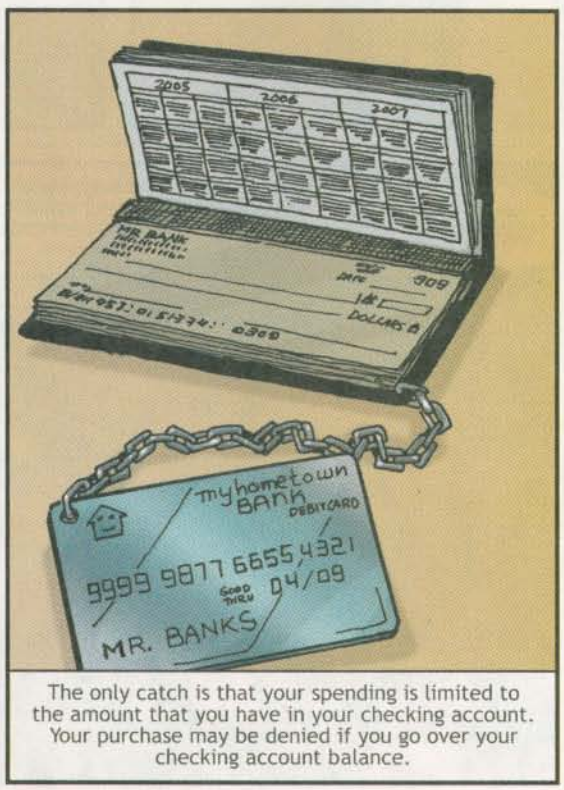

Who else processes checks besides the Fed?
Well, the majority of checks in the United States are exchanged by banks in a clearinghouse association located in the same city or region.
LOCAL CLEARINGHOUSE
ANYCITY, USA
These banks exchange bundles of checks that will be paid by the banks whose customers wrote them.


Isn't there a faster, easier way for a transaction to happen?
Yes, a debit card is faster.

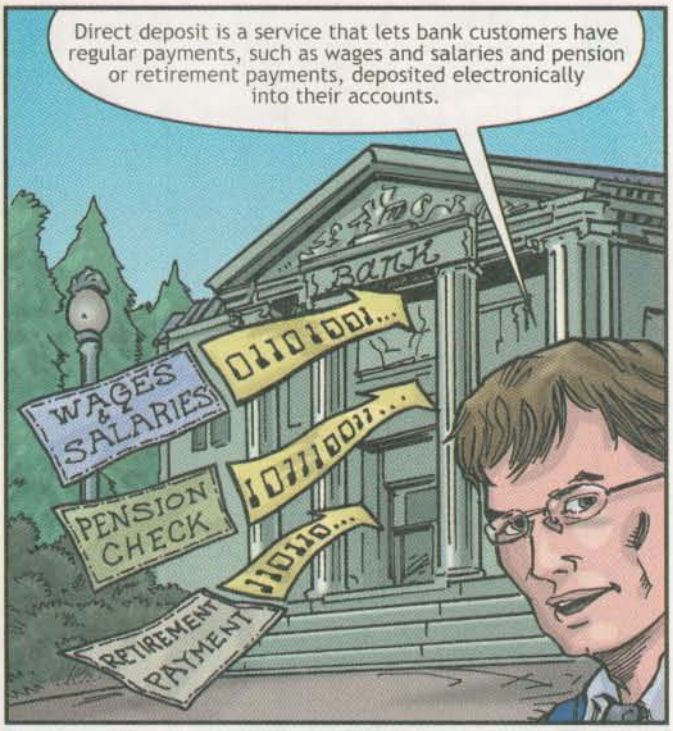
Debit card?


How do I use a debit card?
my hometown BANK
DEBIT CARD
9999 9877 6655 4321
MR. BANKS
A debit card looks like a credit card, but it is tied to your checking account. When you purchase something at a store or maybe from the sports equipment catalogue you like, your payment is cleared electronically.


When the merchant swipes your card, the purchase amount is deducted automatically from your account.
That's fast and I don't need to carry any cash.

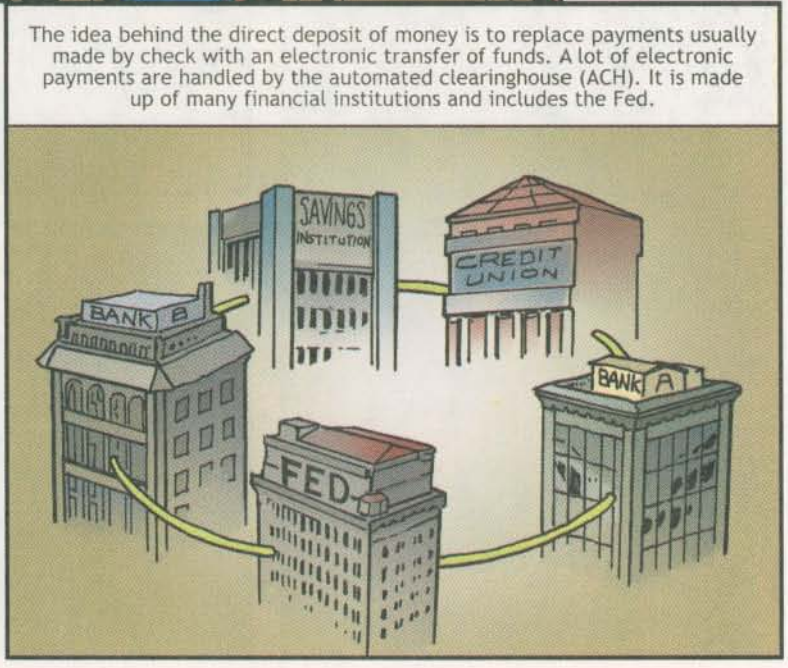

2005
2006
2007
my hometown BANK
DEBIT CARD
9999 9877 6655 4321
04/09
MR. BANKS
The only catch is that your spending is limited to the amount that you have in your checking account. Your purchase may be denied if you go over your checking account balance.

What about the reverse? Can money be deposited directly into my checking and savings accounts?
Of course. That's called direct deposit.


Direct deposit is a service that lets bank customers have regular payments, such as wages and salaries and pension or retirement payments, deposited electronically into their accounts.
BANK
WAGES & SALARIES
PENSION CHECK
RETIREMENT PAYMENT

What about my grandmother's pension check? Can we talk to her about that? It would make life easier for her while her hip heals.

Sure, I will explain how it works. It would really cut down her trips to the bank. She wouldn't have to carry cash and she could start to pay bills electronically, too.

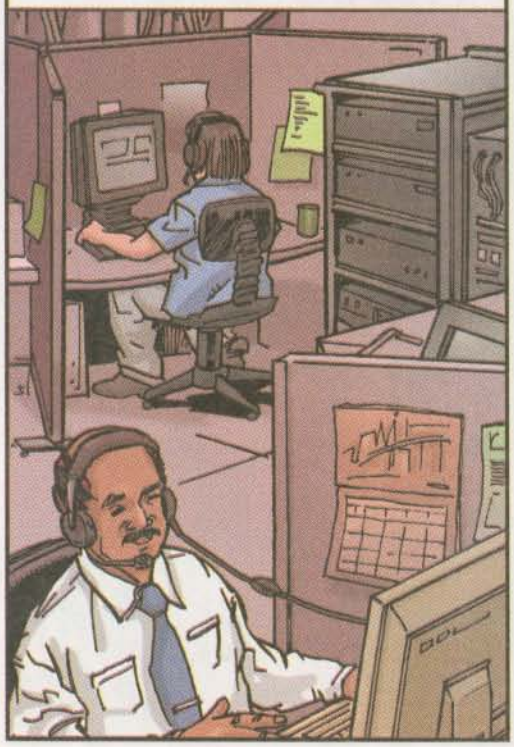

The idea behind the direct deposit of money is to replace payments usually made by check with an electronic transfer of funds. A lot of electronic payments are handled by the automated clearinghouse (ACH). It is made up of many financial institutions and includes the Fed.
SAVINGS INSTITUTION
CREDIT UNION
BANK B
BANK A
FED

Banks send and receive electronic payment instructions by computer, either through the FedACH network, run by the Fed, or the Electronic Payments Network (EPN), a separate, private automated clearinghouse.

If bank customers want to have money deposited into their accounts electronically, they simply have to give the sender, such as their employer, their account information, such as their bank's routing number and their own account number.

Bank customers who want to have money taken directly out of their account to pay their bills can fill out a card authorizing their bank to make payments to specific companies.

The ACH system sorts these payment messages and delivers them to each bank in the network, telling them which bank has accounts to be debited or credited.



Then, the banks pass the credits and debits on to their customers by adjusting their account balances upward or downward.

That sounds a lot simpler than writing and mailing checks or standing in line at the bank to deposit them.
It is. A lot of other people think so, too. About 12,000 financial institutions send and receive payments through ACHs on behalf of their customers - both individuals and businesses.

Six month later, at Gotham College in upstate New York
I can't believe we're here, playing on the same college basketball team. I guess nothing is too good for the two guys who helped win the state championship.
Hey, what's wrong?
I just got back from the athletic office and found out my scholarship won't pay for books. Classes start tomorrow and I need $500 now. I don't know what I'm going to do.
You need to call your dad! He'll know what to do.
No problem, Jeff. I will get you a pre-paid university campus card.
How does that work? How long will it take?
ΦMΩ
It's simple. I just activate an account on the web and add money to the card. I just need your student ID number and I will go online.
I would normally mail a check to add money, but since you need money quickly, I will pay by credit card.

What did he say?
He's going to open a pre-paid card for me and put enough money on it for me to buy books.
What do you mean?
I guess it's a card that I can use like a debit card, but it has a specific limit or amount of money on it.
How does it work?
They will scan it at the bookstore when I buy my books and deduct the amount that I pay for textbooks from the card total.
What else can you buy?
My dad said that the money should go only toward my books. If I hit my card limit there will be no more money left on the card. Plus, I can only use the card on campus.

As usual, your dad gave good advice. And I'm amazed at what he's taught us about the many ways that money moves and payments are made.
Yeah, it's interesting to know what is going on behind the scenes in the economy. So much happens just involving checks, direct deposits and payments. And, of course, those pre-paid cards that made it easier for me to get ready for my classes.
I guess you'd better get to the bookstore before it closes.
I know. Money moves so fast that I will have all of my books tonight and no choice but to start studying.
ΦΜΩ

"The Story of Checks and Electronic Payments" uses the story of two basketball-playing buddies to discuss:

- the roles of checks and electronic payments in helping our economy function smoothly,
- personal finance skills such as writing a check and balancing a checking account,
- the role of the Federal Reserve in facilitating payments in our economy, and
- the advantages of checks and electronic payments over cash.

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